

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-36. (Canceled)

37. (Original) A method for setting a minimum delay reference associated with a data packet from an incoming call at a de-jitter buffer, the de-jitter buffer having an ideal depth, the method comprising:

receiving a data packet associated with an incoming call;

computing an actual arrival instant of the data packet and a reference zero-delay arrival instant of the data packet;

calculating a delay based on said actual arrival instant of the data packet and said reference zero-delay arrival instant of the data packet;

declaring the data packet a minimum delay packet if the actual arrival instant of the data packet is less than the reference zero-delay arrival instant of the data packet and the depth of the de-jitter buffer minus the delay is less than or equal to a predetermined maximum value;

dropping the data packet, declaring a virtual packet as a minimum delay packet and setting the actual arrival instant of the virtual packet equal to the sum of the reference zero-delay arrival instant of the data packet and the depth of the de-jitter buffer minus a predetermined maximum value if the actual arrival instant of the data packet is less than the reference zero-delay arrival instant of the data packet and the depth of the de-jitter buffer minus the delay is greater than a predetermined maximum value;

setting an arrival instant of the minimum-delay packet equal to the actual arrival instant of the data packet;

setting the end-to-end delay of the minimum-delay packet equal to the actual arrival instant of the data packet minus a transmission instant of the data packet;

decreasing at least one of the depth of the de-jitter buffer and the ideal depth of the de-jitter buffer by the difference of the actual arrival instant of a data packet and the reference zero-delay arrival instant of the data packet.

38. (Original) A method for managing the depth of a de-jitter buffer on the voice-path in a packet network, the method comprising:

- selecting an initial `ideal_buffer_depth` parameter based on classification of an incoming call;

- selecting one or more rates of changes of `ideal_buffer_depth` parameter based on the classification of the incoming call;

- updating the initial `ideal_buffer_depth` parameter based on one of the measured voice-path delay and the packet loss probability over at least one previous call of the same class;

- updating one or more rates of changes of `ideal_buffer_depth` parameter based on one of said measured voice-path delay and the packet loss probability over at least one previous call of the same class;

- choosing an initial value and rates of change of the `ideal_buffer_depth` parameter for a first data packet of the incoming call based on the classification of the call and one of the measured voice-path delay and the packet loss probability over at least one previous call of the same class;

- updating the `ideal_buffer_depth` parameter based on the delay of the data packet;

- updating a `realized_buffer_depth` parameter based on the `ideal_buffer_depth` parameter;

- updating a minimum-delay reference parameter based on the delay of the data packet;

- dropping a packet due to one of a buffer underflow and a buffer overflow based on the delay of the data packet;

- determining a buffer depth based on the `realized_buffer_depth` parameter.